

CLAIMS:

1. A vehicular seat assembly for the seating of a vehicle driver or use with a vehicular seat frame comprising:

a resilient seat base for attachment to the seat frame;

5 an inflatable cellular cushion attached to the top surface of the resilient seat base, said inflatable cellular cushion having a plurality of individual inflatable cells, said plurality of individual inflatable cells arranged in a plurality of individual inflation zones, at least one of said plurality of individual inflation zones positioned adjacent a center line of the seat base to align under and support of an ischial area of a driver seated on the cushion, said plurality of inflatable cells within the zone aligned
10 under the ischial area having an airflow path among the individual cells within the inflation zone comprised of patent airflow channels between individual inflatable cells arranged in a pattern between the individual inflatable cells so as to restrict free airflow along the airflow path and facilitate dampening of vibration and road
15 shock in that zone.

2. The vehicular seat assembly of claim 1 wherein at least one other of the plurality individual inflation zones positioned along an edge of the seat base to provide peripheral support to the driver.

3. The vehicular seat assembly of claim 1 further comprising an
20 apparatus for controlling the inflation of the inflatable cellular cushion.

4. The vehicular seat assembly of claim 3 wherein the apparatus for controlling the inflation of the inflatable cellular cushion comprises an air source and an air regulator.

5. The vehicular seat assembly of claim 1 wherein each of said plurality of individual cells further comprises base and four fins positioned an equal distance around and extending outwardly from a center axis of the cell.

6. The vehicular seat assembly of claim 5 wherein each said four fin cells
5 has a surface area of not greater than three times greater than an area of the cell base.

7. The vehicular seat assembly of claim 1 further comprising a support between the seat frame and the seat base.

8. The vehicular seat assembly of claim 1 wherein said inflatable cushion
10 is formed from vacuum molded plastic.

9. The vehicular seat assembly of claim 1 wherein said inflatable cushion is formed from dip molded neoprene.

10. The vehicular seat assembly of claim 1 wherein at least one of the individual inflation zones is adjacent a center line of the seat base to align under
15 and support the ischial area of the driver and at least two of the individual inflation zones are positioned along lateral edges of the seat base to provide lateral support to the driver.

11. The vehicular seat assembly of claim 1 wherein said seat base further comprises a polyurethane seat base.

20 12. The vehicular seat assembly of claim 7 wherein the support is a metal seat pan.

13. The vehicular seat assembly of claim 7 wherein the support is formed from a polymer material.

14. The vehicular seat assembly of claim 7 wherein the support is a fabric.

15. A vehicle seat assembly comprising:

a seat frame mounted in a driver area of a truck;

a support on the seat frame;

5 a seat base on the support;

an inflatable cellular cushion on said resilient base, said inflatable cellular cushion assembly comprising a plurality of individual inflatable cells, said plurality of individual cells arranged into a center ischial support zone and individual peripheral support zones adjacent said ischial support zone, wherein said center ischial support zone has a continuous internal air flow path having an air flow pattern that dampens airflow among cells in the center ischial support zone to and facilitate dampening of vibration and road shock in that zone.

16. The truck seat assembly of claim 15 further comprising an original air source in the truck fluidly connected to said center support zone and said individual lateral support zones; and

a regulator between the original air source and the inflatable cellular cushion for regulating a desired air pressure within said recited zones.

17. The truck seat assembly of claim 15 wherein the seat base is a resilient foam seat base.

20 18. The improved truck seat assembly of claim 15 wherein said seat base is a rigid seat base.

19. A vibration and road shock dampening vehicle seat assembly for a seat frame in the driver area of a vehicle, comprising:

a seat support on the seat frame;

a seat base on said seat support;

5 an inflatable cellular cushion on said seat base, said cushion having a plurality of individual hollow inflatable cells divided into a plurality of discrete inflation zones, at least one of said discrete inflation zones being substantially centrally positioned on the seat base so as to align under an ischial area of a driver seated on the seat assembly, the centrally positioned discrete inflation zone having an
10 internal continuous fluid flow path among the hollow cells having a flow pattern and flow path diameter that controls air flow among the cells to dampen vibration and road shock to the ischial area of the driver;

an air source in fluid communication with the inflatable cushion; and

a valve positioned between said at least one air regulator and the inflatable
15 cellular cushion to regulate air pressure within said discrete inflation zones.

20. The vehicle seat assembly of claim 19 wherein the valve is a slide valve.

21. A vibration and road shock dampening seat assembly for mounting on a vehicular seat frame, comprising:

20 a support member attached to the seat frame;

a resilient seat base removeably attached to said support member;

an inflatable cellular cushion positioned on said seat base, said inflatable cellular comprising a plurality of individual, hollow inflatable cells divided into a

center inflation zone, a front inflation zone, a back inflation zone, a first side inflation zone and a second side inflation zone, said recited center inflation zone including a continuous internal fluid flow path among the individual hollow inflatable cells sized and configured to control fluid flow among the cells in the center inflation zone to dampen vibration and road shock to a driver seated on the seat assembly; and

a slide valve between said inflatable cellular cushion and an air source, said valve designed to allow fluid communication between said front, back, first side and second side inflation zones through the valve when in an open position and to prevent fluid communication between said last recited zones through the valve when in a closed position, whereby a driver seated on said seat assembly can adjust the inflation of said last recited zones by opening and closing said valve.

22. The seat assembly of claim 21 wherein said center inflation zone further comprises a preset inflation pressure of approximately 35 mM Hg to approximately 45 mM Hg.

23. A vibration and road shock dampening seat assembly for seating of a vehicle driver, comprising;

a seat frame support;

a cushion assembly mounted on the seat frame support, said cushion assembly comprising a resilient seat base, an inflatable cellular cushion on the seat base having a front, rear and lateral bolsters and a center inflation zone with air flow dampening means within the center inflation zone for dampening vibration and road shock.

24. The seat assembly of claim 23 wherein said means within the center inflation zone for dampening vibration and road shock further comprises an air flow path within the center inflation zone having a predetermined diameter and flow pattern that retards air flow within the inflation zone so as to dampen vibration and
5 road shock.

25. An inflatable cellular cushion for a vehicular seat for a driver of the vehicle, comprising:

a center inflation zone for positioning under an ischial area of the driver of the vehicle to dampen vibration and absorb vibration and shock to the ischial area
10 during driving, said center inflation zone comprised of a plurality of individual inflatable cells interconnected by fluid flow channels that form a continuous fluid flow path, said continuous fluid flow path having a predetermined diameter and a pattern that controls a rate of air flow between the individual cells within the center inflation zone thereby enhancing the vibration and shock absorbing effect of the
15 cells.

26. An inflatable cellular cushion, comprising:

a plurality of individual inflatable cells interconnected by fluid flow channels that form a continuous fluid flow path, said continuous fluid flow path having a predetermined diameter and a pattern that controls a rate of air flow between the
20 individual cells thereby enhancing vibration and shock absorbing effect of the cells.